

general process, and meteorological conditions on the earth cannot be perfectly unique.

A number of circumstances, however, cause far greater variations in meteorological processes than in most other phenomena which have yet been discussed. For instance, on small astronomical bodies with weak gravitational attractions atmospheres cannot long endure. Like the moon these bodies must gradually lose nearly all their gases to space. Such loss has almost certainly occurred from the earth itself, and probably accounts for the absence of hydrogen and helium from the air. These gases, being very light, are not attracted with sufficient force to the earth, and gradually rise to the upper level of the atmosphere and fly away. Again, in the absence of a near-by sun which steadily provides energy to balance loss by radiation, the period during which water and carbonic acid can remain in an atmosphere must be relatively short. Gradually, but in a time wholly inconsiderable in comparison with the duration of the terrestrial atmosphere, the gases surrounding bodies so placed must condense and then solidify. Finally, a body which constantly turns one face to a sun must slowly condense its whole atmosphere upon its dark,